



WaferSense™ ALS1.1 Release Notes

February 2006

This document communicates the changes made to the ALS hardware and software and their impact to product performance.

Ordering

Although ALS1.1 fully replaces ALS1.0 there is no change in ordering details. Only ALS1.1 will be available for sale after February 2006.

Upgrading

All earlier release units returned for calibration service will be upgraded to ALS1.1. If you have upgraded hardware (part numbers starting with H0D, H1D or H3D) we recommend that you also upgrade your software (to LevelView1.1) so you may take full advantage of the hardware improvements implemented. To upgrade your software, simply install the ALS software provided on the new CD-ROM (P/N 831-0300-01).

Modifications to the WaferSense™ ALS Sensor (P/N H0D, H1D or H3D)

1. **ALS accurately measures inclination up to 70°C.**

ALS1.1 release provides for an extended operating temperature range of 20°C to 70°C (as measured inside the electronics enclosure). Most accurate measurement data can be obtained at temperatures between 20°C and 30°C. Higher temperatures slightly reduce accuracy so that at 70°C measurements are accurate to $\pm 0.06^\circ$. For more detail refer to the WaferSense ALS User's Guide.

2. **ALS implements a new battery.**

Because this battery is slightly thinner than the previous generation, the runtime is reduced from 6 hours to 4.5. This battery also takes 2 hours to achieve full charge (80% of charge capacity is available after the first hour).

Modifications to the LevelView™ Application (LevelView 1.1)

1. **Updated temperature status display.**

The temperature status bar was updated to correctly reflect that the sensor could operate up to 70°C.

2. **Updated battery runtime display.**

The available battery runtime bar was updated to correctly monitor the shorter available runtime (4.5 hours, down from 6 hours). LevelView1.1 will continue to report correct runtime for ALS sensors with the 6-hour battery.

3. **Wrong wafer outline shown for ALS150 sensors.**

The wafer outline shown in the left-hand bubble display was incorrect for ALS150 sensors with serial numbers starting with H3B. LevelView1.1 shows the same outline for all sensors,

with a superimposed WaferSense™ ALS “watermark” to indicate the orientation of the sensor.

4. Reference pitch and/or roll can be out of range.

If the user set the reference plane when the pitch and/or roll are greater than 4.0 or less than -4.0, the reference pitch and/or roll would echo as a numerical reading rather than the “####” that is displayed for inclinations that are out of range. LevelView1.1 no longer accepts out-of-range reference inclinations. If the user tries to set the reference plane when pitch and/or roll is out of range, the reference inclination will not be changed.

5. Go/No Go circle is not redrawn.

When reading entries from a log file, you may change the value of the Go/No Go tolerance via the **Set Go/No Go Tolerance...** command in the **Settings** menu. In LevelView1.0, changing the Go/No Go tolerance echoed the proper value in the Go/No Go text display, however the circle was not redrawn, but rather kept consistent with the previous Go/No Go tolerance value. This behavior is corrected in LevelView1.1, so that the Go/No Go circle is redrawn to be consistent with the new Go/No Go tolerance value.

6. LevelView crashes on startup.

On rare occasions, LevelView1.0 crashed on startup with a “Debug Assertion Failed!” message that indicated that the failure occurred in dlgcore.cpp. We believe that this problem has been solved with LevelView1.1.

7. Sensor information not downloaded from a new sensor.

The communications architecture used by WaferSense ALS allows you to change the pairing of a WaferSense link and a WaferSense sensor by using the **New Pair** function of both devices. If you were displaying readings from an ALS sensor in LevelView1.0, and you paired a different sensor to the communication link, LevelView would not download the information it needed from the new sensor, but rather continued displaying inclination readings based on the information it obtained from the original sensor. LevelView1.1 was modified to detect that a different sensor has been paired, and to download the sensor’s information before displaying inclination readings from the new sensor.

8. Go/No Go tolerance displayed with too many decimal places.

LevelView should automatically adjust the Go/No Go Tolerance to a smaller value if it fell outside the -4.0 to +4.0 degree range of the pitch and roll readings. This situation could arise if you set a reference pitch and/or roll that are fairly large (e.g., 0.5 degrees) and also select a large Go/No Go Tolerance value (e.g., 3.8 degrees). When LevelView1.0 automatically reduced the Go/No Go value, the resulting value was displayed with more than 2 decimal places. LevelView1.1 rounds the adjusted Go/No Go Tolerance to only 2 decimal places.

9. Printing was truncated when using 120 DPI font.

If you change the system font to 120 DPI, printing the LevelView1.0 screen would give a page that truncated the temperature display and the contents of the Serial Number, Operator, Tool, Station and Comment text boxes. LevelView1.1 no longer truncates these entries.

10. Excel damages LevelView log files.

You can display the contents of a LevelView log file in Excel by opening the file as a CSV (comma-separated values, or comma delimited) file. If you saved the log file in Excel keeping it in CSV format, LevelView1.0 would no longer be able to display the contents of

the file, even if you made no changes to the file. LevelView has been modified to accept the format changes that Excel makes in the CSV file. Of course, if you save the file in a format other than CSV, LevelView will no longer be able to display its contents, or add additional readings to the file.

11. LevelView log file entries added to files that are not LevelView log files.

If when you selected a file for logging LevelView1.0 readings, and you chose a file that was not a LevelView file, LevelView informed you that this was not a valid log file. However, you could still log readings to this file, and LevelView would append the readings to the end of the file you selected. This changed the file you selected, and added entries to a file that LevelView cannot display. LevelView1.1 no longer adds log file entries to files that it doesn't recognize as LevelView log files.

12. Log file entry count is incorrect.

If LevelView1.0 were logging entries automatically and you changed to displaying entries from a log file, the application would continue to log readings from the sensor. When you changed back to displaying readings from the sensor, the number of log file entries did not reflect the entries added while LevelView was displaying entries from a log file. LevelView1.1 no longer adds entries to a log file while you are displaying previously recorded entries.

13. Errors reading a LevelView log file on startup.

If you exited LevelView1.0 when it was reading entries from a log file, when you started LevelView it should have read entries in the same log file. In this scenario, LevelView1.0 would either open a file from the wrong folder, or prompt the user to select a log file to read. This behavior has been corrected in LevelView1.1.

14. Wrong file name and count displayed.

When you change from displaying readings from the sensor to reading entries from a log file, LevelView should "remember" which log file was selected for logging entries so that when you change back to displaying readings from the sensor, your log file entries will be added to the correct file. If you changed to reading entries from a log file, and then selected a different log file to display, on returning to displaying readings from the sensor, LevelView1.0 displayed the incorrect log file name, even though entries were added to the correct (original) log file. This behavior has been corrected in LevelView1.1.

15. LevelView files can be damaged.

LevelView1.1 makes the log files that it creates or adds entries to as read-only files. This should prevent users from unintentionally modifying their log files while viewing them with applications such as Excel.

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